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MEMORY MODULE WITH HIERARCHICAL FUNCTIONALITY

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ABSTRACT OF THE DISCLOSURE

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A sense amplifier having a sampling circuit to sample the amplifier input signal; a reference node storing a reference signal corresponding to the input signal; and a timing circuit activating the sampling circuit for a predetermined interval, and admitting the reference signal to the reference node. The sense amplifier also can include a pump capacitor substantially maintaining a value of the reference signal; and a gain circuit coupled with the reference node and disposed to adaptively adjust gain of an output signal produced by the sense amplifier. The sense amplifier can be a single-ended sense amplifier.

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